

Figure 1

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	10	20	30	40	50	60	70	
	-AVASLVMGSVVHATEKEVTTQVATSSNRANKSQTTEHRKAAKQ-----VDEYIKKML---Q--L							
SPB328 (23F) Cbp	-AVASLVMGSVVHATEKEVTTQVATSSNRANKSQTTEHRKAAKQ-----VDEYIKKML---Q--L						53	
SPB365 (23F) Cbp	-AVASLVMGSVVHATEKEVTTQVATSSNRANKSQTTEHRKAAKQ-----VDEYIKKML---Q--L						53	
SPB105 (6B) CbpA	VAVASLVMGSVVHATEKEVTTQVATSSNRANKSQTTEHRKAAKQ-----VDEYIKKML---Q--L						54	
SPSJ12 (19A) Cbp	-AVASLVMGSVVHATEKEVTTQVATSSNRANKSQTTEHRKAAKQ-----VDEYIKKML---Q--L						52	
SPB331 (14) CbpA	-VASLVMGSVVHATEKEVTTQVATSSNRANKSQTTEHRKAAKQ-----VDEYIKKML---Q--L						51	
SPR332 (9V) CbpA	CTVASLVMGSVVHATEKEVTTQVATSSNRANKSQTTEHRKAAKQ-----VDEYIKKML---Q--L						55	
ATCC2 CbpA trun	VAVASLVMGSVVHATEKEVTTQVATSSNRANKSQTTEHRKAAKQ-----VDEYIKKMLREIQ--L						40	
R6X(2) CbpA tru	-----ENEGSTQAATSSNRANKSQTTEHRKAAKQ-----VDEYIKKMLREIQ--L						54	
SPSJ9 (14) CbpA	Y-IASLFLGGVVHAE-----GVRSENNPTVTSSGQDISKKYADE-----VESHLSILKDVNKNL						52	
ATCC6B CbpA tru	---ASLFLGGVVHAE-----GVRSGNNSTVTSSGQDISKKYADE-----VESHLSILKDVNKNL						70	
Ntype4 CbpA tru	CIVASLVMGSVVHATEKEVTTQVATSSNRANKSQTTEHRKAAKQ-----VDEYIKKMLREIQ--L						69	
ATCC4 CbpA trun	-IVASLVMGSVVHATEKEVTTQVATSSNRANKSQTTEHRKAAKQ-----VDEYIKKMLREIQ--L							
	80	90	100	110	120	130	140	
	DRRKHTQNVALLTKLGVIKTEYLHGLSVSKKSEAELPSEIKA---KLDAAFEQFKKDTL-----							
SPB328 (23F) Cbp	DRRKHTQNVALLTKLGVIKTEYLHGLSVSKKSEAELPSEIKA---KLDAAFEQFKKDTL-----						111	
SPB365 (23F) Cbp	DRRKHTQNVALLTKLGVIKTEYLHGLSVSKKSEAELPSEIKA---KLDAAFEQFKKDTL-----						111	
SPB105 (6B) CbpA	DRRKHTQNVALLTKLGVIKTEYLHGLSVSKKSEAELPSEIKA---KLDAAFEQFKKDTL-----						113	
SPSJ12 (19A) Cbp	DRRKHTQNVALLTKLGVIKTEYLHGLSVSKKSEAELPSEIKA---KLDAAFEQFKKDTL-----						111	
SPB331 (14) CbpA	DRRKHTQNVALLTKLGVIKTEYLHGLSVSKKSEAELPSEIKA---KLDAAFEQFKKDTL-----						106	
SPR332 (9V) CbpA	DKRKHTQNVALLTKLGVIKTEYLHGLSVSKKSEAELPSEIKA---KLDAAFEQFKKDTL-----						110	
ATCC2 CbpA trun	DRRKHTQNVALLTKLGVIKTEYLHGLSVSKKSEAELPSEIKA---KLDAAFEQFKKDTL-----						98	
R6X(2) CbpA tru	DRRKHTQNVALLTKLGVIKTEYLHGLSVSKKSEAELPSEIKA---KLDAAFEQFKKDTL-----						112	
SPSJ9 (14) CbpA	DRSKHIKTQNVALLTKLGVIKTEYLHGLSVSKKSEAELPSEIKA---KLDAAFEQFKKDTL-----						113	
ATCC6B CbpA tru	KKVQHTQNVALLTKLGVIKTEYLHGLSVSKKSEAELPSEIKA---KLDAAFEQFKKDTL-----						138	
Ntype4 CbpA tru	TKKRHTITVALVNLNLIKNEYLN--KIVESTSESQIQILMESRSKVDEAVSKFEKQSSSSSSSSSDSSTK						137	
ATCC4 CbpA trun	TKKRHTITVALVNLNLIKNEYLN--KIVESTSESQIQILMESRSKVDEAVSKFEKQSSSSSSSSSDSSTK							
	150	160	170	180	190	200	210	
	PTEPGKKVAEAEKKVVEEAKKK-----AEDQKEEDRRNYPTITYKTLELEIAESDVEV							
SPB328 (23F) Cbp	PTEPGKKVAEAEKKVVEEAKKK-----AEDQKEEDRRNYPTITYKTLELEIAESDVEV						162	
SPB365 (23F) Cbp	PTEPGKKVAEAEKKVVEEAKKK-----AEDQKEEDRRNYPTITYKTLELEIAESDVEV						162	
SPB105 (6B) CbpA	TK--KTVAEAEKKVVEEAKKK-----AKAQKEEDRRNYPTITYKTLELEIAESDVEV						161	
SPSJ12 (19A) Cbp	PTEPGKKVAEAEKKVVEEAKKK-----AEDQKEEDRRNYPTITYKTLELEIAESDVEV						160	
SPB331 (14) CbpA	PTEPGKKVAEAEKKVVEEAKKK-----AEDQKEEDRRNYPTITYKTLELEIAESDVEV						161	
SPR332 (9V) CbpA	PTEPGKKVAEAEKKVVEEAKKK-----AEDQKEEDRRNYPTITYKTLELEIAESDVEV						164	
ATCC2 CbpA trun	PTEPGKKVAEAEKKVVEEAKKK-----AEDQKEEDRRNYPTITYKTLELEIAESDVEV						159	
R6X(2) CbpA tru	PTEPGKKVAEAEKKVVEEAKKK-----AEDQKEEDRRNYPTITYKTLELEIAESDVEV						147	
SPSJ9 (14) CbpA	PTEPGKKVAEAEKKVVEEAKKK-----AEDQKEEDRRNYPTITYKTLELEIAESDVEV						163	
ATCC6B CbpA tru	STEPEKKVAEAEKKVVEEAKKK-----AKAQKEEDRRNYPTITYKTLELEIAESDVEV						201	
Ntype4 CbpA tru	PEASDTAKPNKPTEPGKKVAEAEKKVVEEAKKK-----AKAQKEEDRRNYPTITYKTLELEIAESDVEV						200	
ATCC4 CbpA trun	PEASDTAKPNKPTEPGKKVAEAEKKVVEEAKKK-----AKAQKEEDRRNYPTITYKTLELEIAESDVEV							

Figure 2A

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KKAELVLVKEEAKESRDEGKINQAKAKVESKQAEATRLKIKTDREKAE--AKRRADAKLQEA---NVA
220 230 240 250 260 270 280
SPB328(23F) Cbp KKAELVLVKEEAKESRDEGKINQAKAKVESKQAEATRLKIKTDREKAE--AKRRADAKLQEA---NVA 227
SPB365(23F) Cbp KKAELVLVKEEAKESRDEGKINQAKAKVESKQAEATRLKIKTDREKAE--AKRRADAKLQEA---NVA 227
SPB105(6B) Cbp KKAELVLVKEEAKESRDEGKINQAKAKVESKQAEATRLKIKTDREKAE--AKRRADAKLQEA---NVA 230
SPSJ12(19A) Cbp KKAELVLVKEEAKESRDEGKINQAKAKVESKQAEATRLKIKTDREKAE--AKRRADAKLQEA---NVA 224
SPB331(14) Cbp KKAELVLVKEEAKESRDEGKINQAKAKVESKQAEATRLKIKTDREKAE--AKRRADAKLQEA---NVA 226
SPR332(9V) Cbp KKAELVLVKEEAKESRDEGKINQAKAKVESKQAEATRLKIKTDREKAE--AKRRADAKLQEA---NVA 229
ATCC2 CbpA trun KKAELVLVKEEAKESRDEGKINQAKAKVESKQAEATRLKIKTDREKAE--AKRRADAKLQEA---NVA 222
R6X(2) CbpA tru KKAELVLVKEEAKESRDEGKINQAKAKVESKQAEATRLKIKTDREKAE--AKRRADAKLQEA---NVA 213
SPSJ9(14) Cbp KKAELVLVKEEAKESRDEGKINQAKAKVESKQAEATRLKIKTDREKAE--AKRRADAKLQEA---NVA 227
ATCC6B CbpA tru KKAELVLVKEEAKESRDEGKINQAKAKVESKQAEATRLKIKTDREKAE--AKRRADAKLQEA---NVA 234
Ntype4 CbpA tru KKAELVLVKEEAKESRDEGKINQAKAKVESKQAEATRLKIKTDREKAE--AKRRADAKLQEA---NVA 261
ATCC4 CbpA trun KKAELVLVKEEAKESRDEGKINQAKAKVESKQAEATRLKIKTDREKAE--AKRRADAKLQEA---NVA 260

SEQDKPKGRKRGVPGELATPDKKENDAKSSDSSVGEETLPSPLKPEKKVAAEAKKVEEAKKKAEDQK
290 300 310 320 330 340 350
SPB328(23F) Cbp TSEQDKPKGRKRGVPGELATPDKKENDAKSSDSSVGEETLPSPLKPEKKVAAEAKKVEEAKKKAEDQK 297
SPB365(23F) Cbp TSEQDKPKGRKRGVPGELATPDKKENDAKSSDSSVGEETLPSPLKPEKKVAAEAKKVEEAKKKAEDQK 297
SPB105(6B) Cbp TSEQDKPKGRKRGVPGELATPDKKENDAKSSDSSVGEETLPSPLKPEKKVAAEAKKVEEAKKKAEDQK 300
SPSJ12(19A) Cbp TSEQDKPKGRKRGVPGELATPDKKENDAKSSDSSVGEETLPSPLKPEKKVAAEAKKVEEAKKKAEDQK 291
SPB331(14) Cbp TSEQDKPKGRKRGVPGELATPDKKENDAKSSDSSVGEETLPSPLKPEKKVAAEAKKVEEAKKKAEDQK 296
SPR332(9V) Cbp TSEQDKPKGRKRGVPGELATPDKKENDAKSSDSSVGEETLPSPLKPEKKVAAEAKKVEEAKKKAEDQK 295
ATCC2 CbpA trun TSEQDKPKGRKRGVPGELATPDKKENDAKSSDSSVGEETLPSPLKPEKKVAAEAKKVEEAKKKAEDQK 288
R6X(2) CbpA tru TSEQDKPKGRKRGVPGELATPDKKENDAKSSDSSVGEETLPSPLKPEKKVAAEAKKVEEAKKKAEDQK 283
SPSJ9(14) Cbp TSEQDKPKGRKRGVPGELATPDKKENDAKSSDSSVGEETLPSPLKPEKKVAAEAKKVEEAKKKAEDQK 293
ATCC6B CbpA tru TSEQDKPKGRKRGVPGELATPDKKENDAKSSDSSVGEETLPSPLKPEKKVAAEAKKVEEAKKKAEDQK 300
Ntype4 CbpA tru TSEQDKPKGRKRGVPGELATPDKKENDAKSSDSSVGEETLPSPLKPEKKVAAEAKKVEEAKKKAEDQK 328
ATCC4 CbpA trun TSEQDKPKGRKRGVPGELATPDKKENDAKSSDSSVGEETLPSPLKPEKKVAAEAKKVEEAKKKAEDQK 327

EEDRRNYPNTYKTLLEIAESDVEVKKAELVLVKEEAKESRNEEKVKQAKAEVESKQAEATRLKIKTD
360 370 380 390 400 410 420
SPB328(23F) Cbp EEDRRNYPNTYKTLLEIAESDVEVKKAELVLVKEEAKESRNEEKVKQAKAEVESKQAEATRLKIKTD 367
SPB365(23F) Cbp EEDRRNYPNTYKTLLEIAESDVEVKKAELVLVKEEAKESRNEEKVKQAKAEVESKQAEATRLKIKTD 367
SPB105(6B) Cbp EEDRRNYPNTYKTLLEIAESDVEVKKAELVLVKEEAKESRNEEKVKQAKAEVESKQAEATRLKIKTD 370
SPSJ12(19A) Cbp EEDRRNYPNTYKTLLEIAESDVEVKKAELVLVKEEAKESRNEEKVKQAKAEVESKQAEATRLKIKTD 361
SPB331(14) Cbp EEDRRNYPNTYKTLLEIAESDVEVKKAELVLVKEEAKESRNEEKVKQAKAEVESKQAEATRLKIKTD 366
SPR332(9V) Cbp EEDRRNYPNTYKTLLEIAESDVEVKKAELVLVKEEAKESRNEEKVKQAKAEVESKQAEATRLKIKTD 365
ATCC2 CbpA trun EEDRRNYPNTYKTLLEIAESDVEVKKAELVLVKEEAKESRNEEKVKQAKAEVESKQAEATRLKIKTD 358
R6X(2) CbpA tru EEDRRNYPNTYKTLLEIAESDVEVKKAELVLVKEEAKESRNEEKVKQAKAEVESKQAEATRLKIKTD 353
SPSJ9(14) Cbp EEDRRNYPNTYKTLLEIAESDVEVKKAELVLVKEEAKESRNEEKVKQAKAEVESKQAEATRLKIKTD 363
ATCC6B CbpA tru EEDRRNYPNTYKTLLEIAESDVEVKKAELVLVKEEAKESRNEEKVKQAKAEVESKQAEATRLKIKTD 370
Ntype4 CbpA tru EEDRRNYPNTYKTLLEIAESDVEVKKAELVLVKEEAKESRNEEKVKQAKAEVESKQAEATRLKIKTD 398
ATCC4 CbpA trun EEDRRNYPNTYKTLLEIAESDVEVKKAELVLVKEEAKESRNEEKVKQAKAEVESKQAEATRLKIKTD 397

RKKAEEE-AKRKAEEEDKVKEKPAEQPQAPAPQPEKPAEFPENPAPAP-PKPENPAEQPKAEPADQQA
430 440 450 460 470 480 490
SPB328(23F) Cbp RKKAEEE-AKRKAEEEDKVKEKPAEQPQAPAPQPEKPAEFPENPAPAP-PKPENPAEQPKAEPADQQA 437
SPB365(23F) Cbp RKKAEEE-AKRKAEEEDKVKEKPAEQPQAPAPQPEKPAEFPENPAPAP-PKPENPAEQPKAEPADQQA 437
SPB105(6B) Cbp RKKAEEE-AKRKAEEEDKVKEKPAEQPQAPAPQPEKPAEFPENPAPAP-PKPENPAEQPKAEPADQQA 437
SPSJ12(19A) Cbp RKKAEEE-AKRKAEEEDKVKEKPAEQPQAPAPQPEKPAEFPENPAPAP-PKPENPAEQPKAEPADQQA 419
SPB331(14) Cbp RKKAEEE-AKRKAEEEDKVKEKPAEQPQAPAPQPEKPAEFPENPAPAP-PKPENPAEQPKAEPADQQA 436
SPR332(9V) Cbp RKKAEEE-AKRKAEEEDKVKEKPAEQPQAPAPQPEKPAEFPENPAPAP-PKPENPAEQPKAEPADQQA 432
ATCC2 CbpA trun RKKAEEE-AKRKAEEEDKVKEKPAEQPQAPAPQPEKPAEFPENPAPAP-PKPENPAEQPKAEPADQQA 425
R6X(2) CbpA tru RKKAEEE-AKRKAEEEDKVKEKPAEQPQAPAPQPEKPAEFPENPAPAP-PKPENPAEQPKAEPADQQA 411
SPSJ9(14) Cbp RKKAEEE-AKRKAEEEDKVKEKPAEQPQAPAPQPEKPAEFPENPAPAP-PKPENPAEQPKAEPADQQA 423
ATCC6B CbpA tru RKKAEEE-AKRKAEEEDKVKEKPAEQPQAPAPQPEKPAEFPENPAPAP-PKPENPAEQPKAEPADQQA 437
Ntype4 CbpA tru RKKAEEE-AKRKAEEEDKVKEKPAEQPQAPAPQPEKPAEFPENPAPAP-PKPENPAEQPKAEPADQQA 458
ATCC4 CbpA trun RKKAEEE-AKRKAEEEDKVKEKPAEQPQAPAPQPEKPAEFPENPAPAP-PKPENPAEQPKAEPADQQA 457

EE--
SPB328(23F) Cbp EE 439
SPB365(23F) Cbp EE 437
SPB105(6B) Cbp EE 439
SPSJ12(19A) Cbp EE 419
SPB331(14) Cbp EE 437
SPR332(9V) Cbp EE 433
ATCC2 CbpA trun EE 427
R6X(2) CbpA tru EE 413
SPSJ9(14) Cbp EE 425
ATCC6B CbpA tru EE 439
Ntype4 CbpA tru EE 460
ATCC4 CbpA trun EE 459

Figure 2B

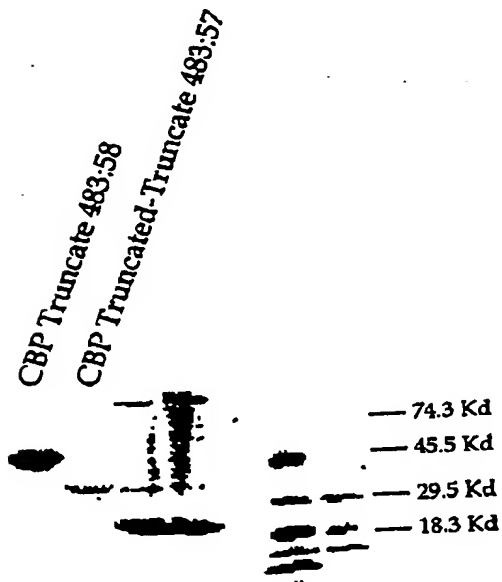


Figure 3

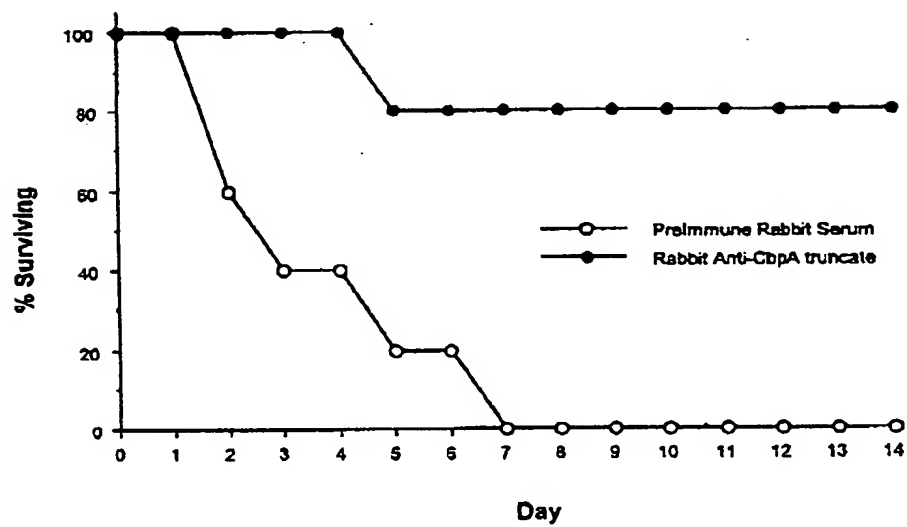


Figure 4

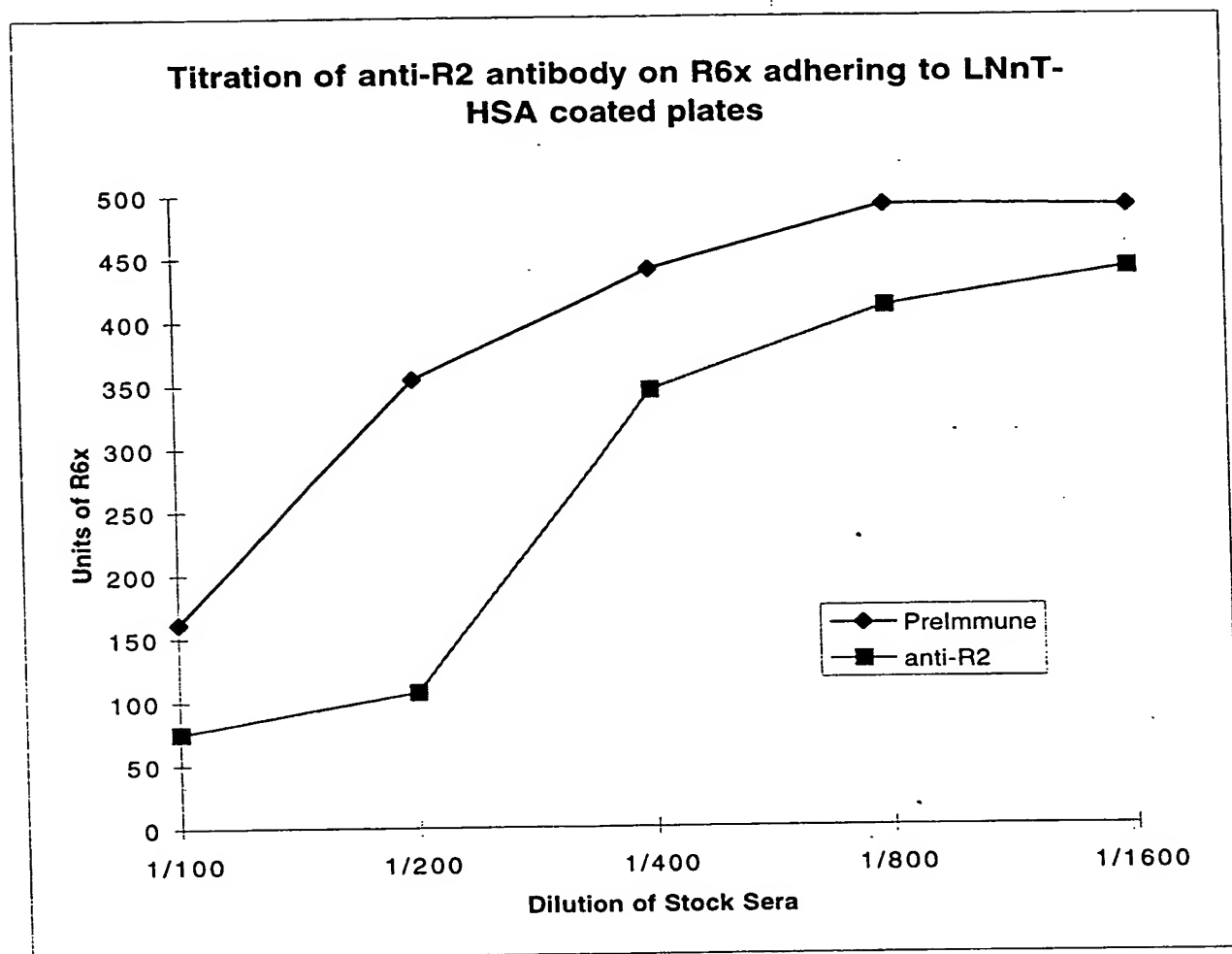


Figure 5

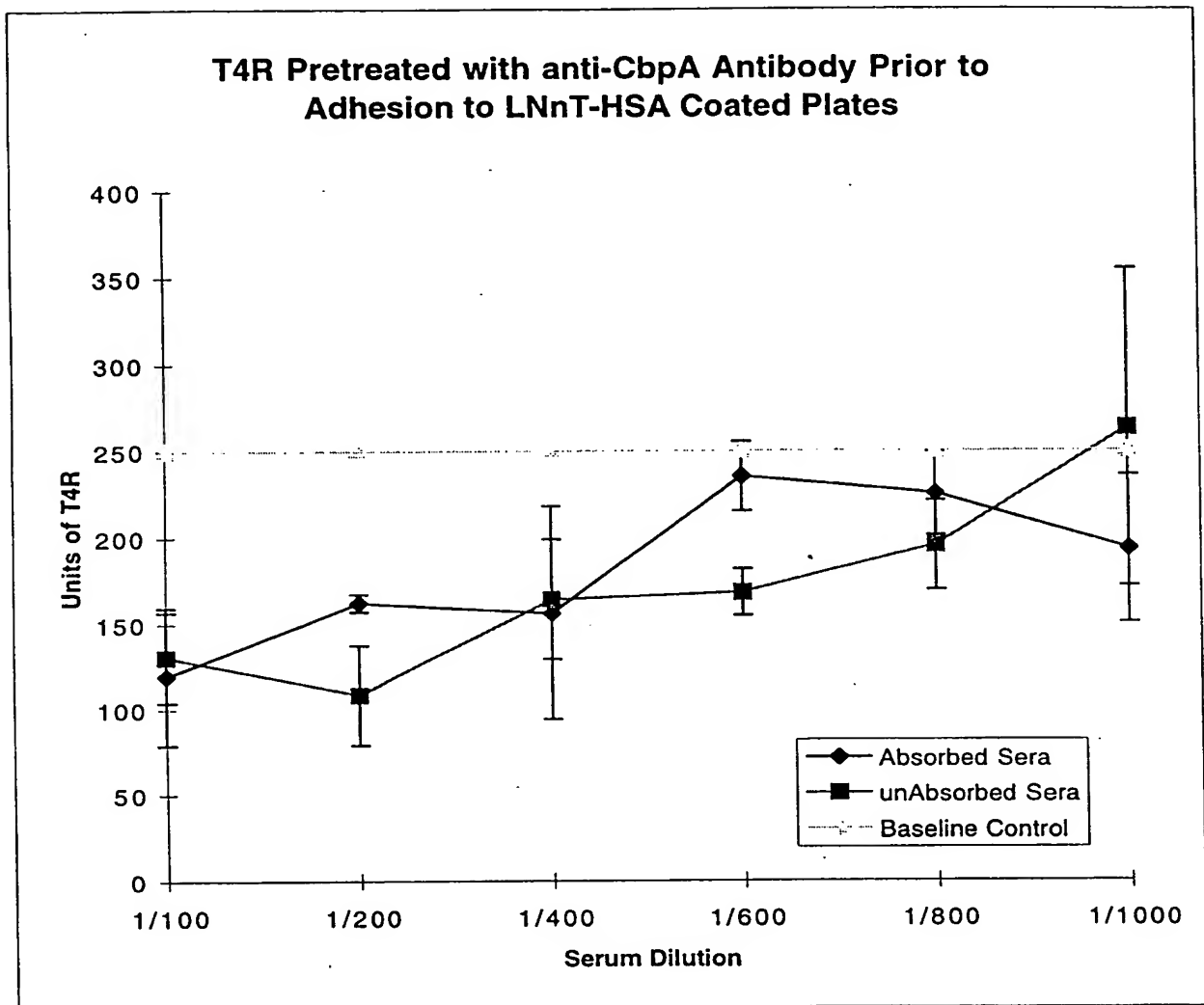


Figure 6

Active Protection

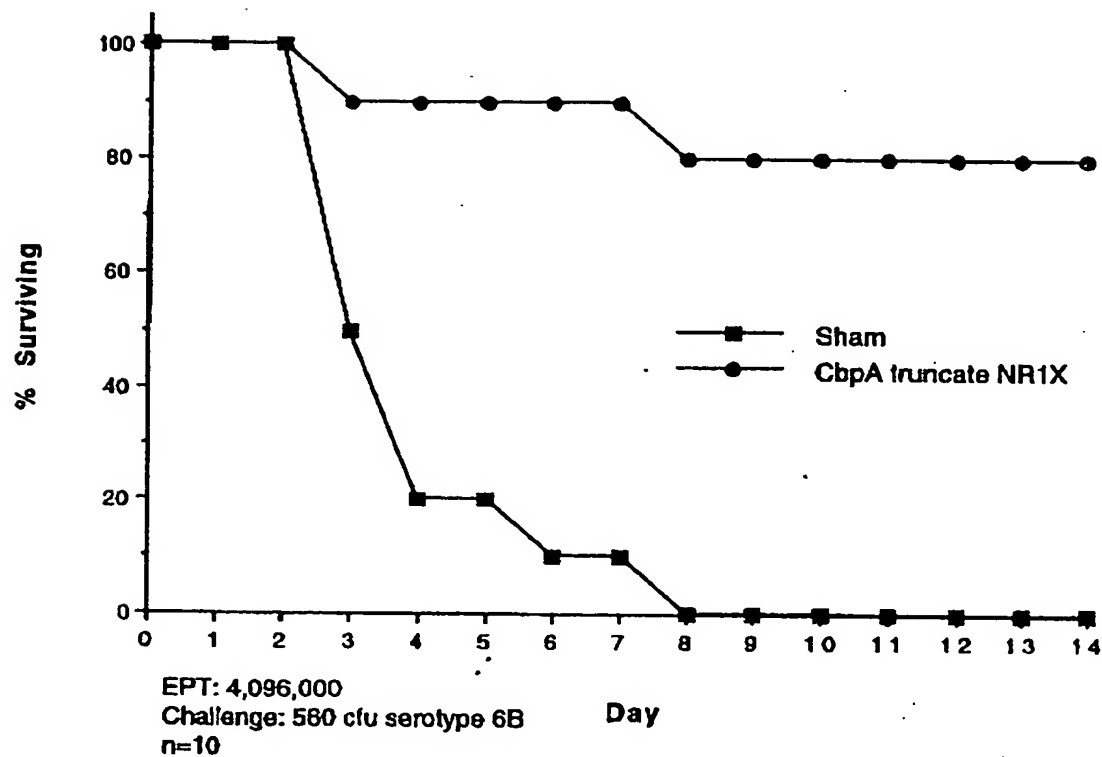


Figure 7

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